Peeling Back the Layers: Variable Line Polarization in WR + O Binaries

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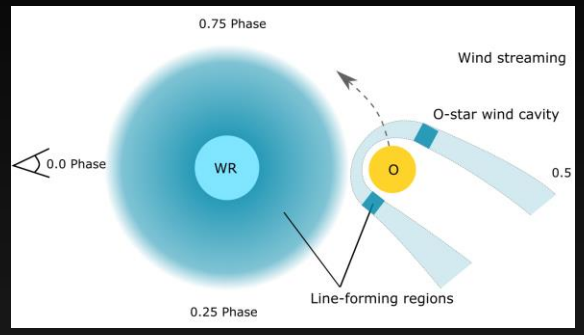


Lines emit in a shell and shocked regions between the WR + O winds

Emulation

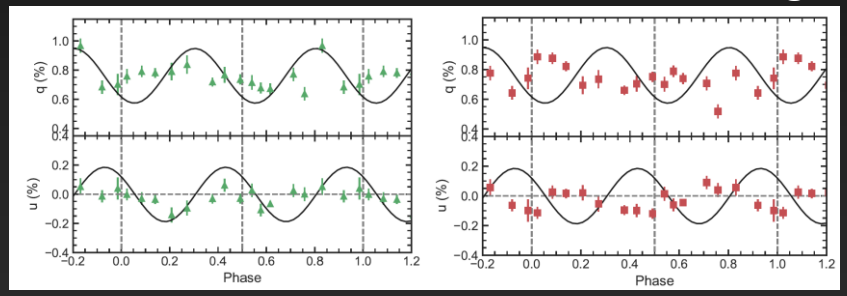
Machine learning in progress to speed up MCRT code

Data

C III 5696 A

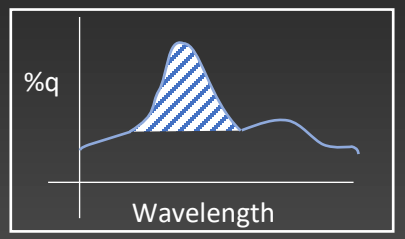
C IV 5800 A region

WR 42



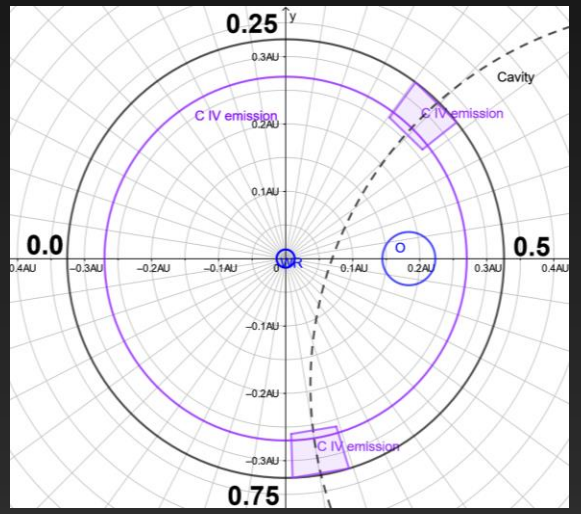
Black lines: continuum polarization

Points: integrated line polarization



Data were collected from the RSS at SALT

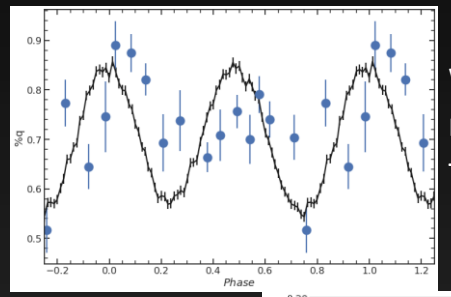
Monte Carlo radiative transfer



Modeling

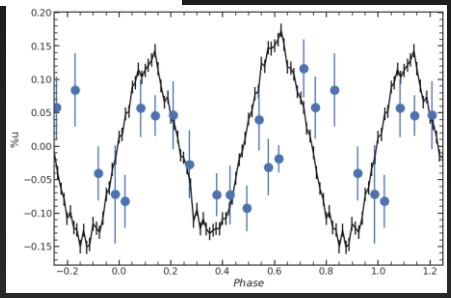
Based on models of V444 Cyg (Lomax+ 2017)

Results



WR 42 5800 A region with V444-type model

V444 model is viewed at WR 42 inclination angle 38.5°



Acknowledgements

University of Denver: Jennifer Hoffman, Rachel Johnson and many others

UW: Kenneth Nordsieck

University of Montreal: Nicole St-Louis, Tony Moffat

SALT observing team